July 1927 Entomological Series Vol. X, No. 4

Memoirs of the Department of Agriculture in India

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BY

E. BALLARD, B.A., F.E.S.

AGRICULTURAL RESEARCH INSTITUTE, PUSA

Calcutta: Government of India
Central Publication Branch
1927

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The fifteen new species of Miridæ described in this paper are all from Southern India with the exception of *Armachanus pusæ*, which is from Pusa (Bihar), and of *Hyalopeplus Krishna*, which is from Chapra (Bihar). I wish to thank Dr. G. A. K. Marshall, of the Imperial Bureau of Entomology, and Dr. P. B. Uvarov for the assistance given me at the British Museum, and Dr. Bergroth and Mr. H. H. Knight of St. Paul, Minnesota for supplying me with literature.

E. Ballard.

SOME NEW INDIAN MIRIDÆ (CAPSIDÆ).

BY

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Government Entomologist, Madras.

(Received for publication on 3rd January 1927.)

Sub-Family MIRINAE.

Division CAPSARIA, Reut.

Deræocoris maculatus, n. sp. (Pl. XV, fig. 1).

Ochraceous, eyes black, first antennal joint subapically and subbasally annulated fuscous. Second joint dark fuscous, apex pale ochraceous, base of third joint pale ochraceous, remainder of joint fuscous. Anterior callosities confluent and partially fuscous. Irregular fuscous marking in the centre of the pronotum spreading to the posterior margin. Scutellum dark fuscous, basal angles, apex and lateral margins pale ochraceous. In some specimens there is a pale ochraceous longitudinal stripe. Membrane hyaline, cell margins fuscous, apex of cuneus fuscous. Clavus and corium punctate fuscous. Legs pale ochraceous annulated fuscous. Space between the eyes broad, more than $\frac{2}{3}$ length of anterior margin of the pronotum. Length 4 mm.

Dr. P. B. Uvarov compared this species with the type of *C. lutulentus* and I have since checked it myself. The pronotum is longer and more convex. *C. maculatus* resembles *C. lutulentus* var. (*Fauna of India*, Rhynchota II, p. 461). A variation of *maculatus* is very dark, especially on the pronotum.

Habitat: Chikballapur, Mysore (*T. V. Campbell*): Taliparamba, North Malabar (*P. Susainathan*): Salem, South India, on mango leaves (*P. V. Isaac*).

Type in the British Museum.

Deræocoris indicus, n. sp. (Pl. XV, fig. 2).

Near *C. signatus*, Dist.

It differs mainly in that the head between the eyes is distinctly broader than in *signatus* and is smooth. The space between the eyes is nearly equal to the anterior margin of the pronotum.

Ochraceous: apex of the second joint of the antennæ dark fuscous, apex of first, third and fourth joints fuscous: eyes black: central longitudinal fascia of the

scutellum, incisural margins of the clavus and margins of the cells fuscous : membrane sub-hyaline : pronotum coarsely punctate, anterior transverse callosities confluent : head broader between the eyes than in *C. signatus*.

Dr. P. B. Uvarov has kindly compared this species with the type of *signatus* in the British Museum. He states that all the specimens from India named *signatus* by Distant belong to this species (*indicus*). It would seem that the record of *signatus* (which is an Australian species) from India is incorrect. Since writing the above I have compared these with Distant's type in the British Museum and I agree with Dr. Uvarov.

Length : 4 mm.

Habitat : Coimbatore (*E. Ballard, Y. Ramachandra Rao* and *A. G. R.*) : Palur, South Arcot, on *Crotalaria juncea* (*Y. Ramachandra Rao*) *:* Coimbatore, " Under bricks " (*Y. Ramachandra Rao*).

I have also collected this species from cotton plants infested with *Aphis gossypii*, Glover.

Of the many species of Miridæ found on cotton, this one was the first to appear in the season 1921-22 and was followed by *C. aphidicidus*. The cotton was infested with Aphis.

Derœocoris aphidicidus, n. sp. (Pl. XVI, fig. 3).

Head pale ochraceous, basal margin black ; four longitudinal dark brown lines at the apex, brown transverse lines in front of the eyes, a small fuscous chevron on the vertex and posterior to it two elongated fuscous spots. Eyes black. Antenna : first joint reddish brown with fuscous apical area ; second joint, apex black ; third joint ochraceous ; fourth black. Pronotum very dark fuscous, margins and lateral areas ochraceous, the latter spotted with brown. Scutellum black with lateral margins and apex ochraceous ; clavus fuscous ; corium ochraceous, spotted fuscous, especially along the veins, two fuscous areas at the apex ; apex of cuneus fuscous ; membrane sub-hyaline ; legs ochraceous ; posterior tibiæ annulated fuscous. On the anterior and intermediate legs and femora of posterior legs the annulation is incomplete. The eyes are large and the space between them less than half the length of the anterior margin of the pronotum.

Length : 4 mm.

Habitat : Coimbatore, South India.

Bred from eggs laid in cotton stems (*Y. Ramachandra Rao*) ; predaceous, especially on *Aphis gossypii*, Glover.

Type in British Museum. Closely allied to *Camptobrochis orientalis*.

Derœocoris dissimilis, n. sp. (Pl. XVI, fig. 4).

Ochraceous inclined to virescent. Eyes and apex of second joint of antenna black, remainder of the second joint mottled fuscous, first, third and fourth joints

fuscous. Pronotum more convex and more densely punctate than in *C. similis*. Scutellum with two narrow semicircular pale fuscous markings the hooks of which point outwards. Corium ochraceous.

Length : 6 mm.

Habitat : Kodaikanal, Palni Hills, South India (*T. V. Campbell*).

Type in British Museum.

Stechus fletcheri, n. sp. (Pl. XVII, fig. 5).

Pale olivaceous green. Antenna: first joint olivaceous green ; basal half of the second joint the same except the extreme base which is black, apical half black ; base of the third joint ochraceous, the remainder black ; fourth joint same as third. Eyes black. Pronotum, corium, cuneus and clavus deeper olive than the head ; apex of the corium infuscated. Scutellum with apex and a thin longitudinal central stripe dark fuscous. Membrane pale fuscous with darker mottling. Apical area of the posterior femora fuscous brown with two pale subapical annulations. Closely allied to *Stechus libertus*, Dist.

Length : 5 mm.

Habitat : Shevaroy Hills, 4,500 feet (*T. Bainbrigge Fletcher*) ; Chikballapur, Mysore (*C. N.*)

Type in the British Museum.

Megacœlum esmedoræ, n. sp. (Pl. XVIII, fig. 6).

Head about as long as broad, abruptly sloped anteriorly, profile seen from the side nearly straight. Antenna inserted halfway down the anterior margin of the eye. First joint of the rostrum longer than the head, the rostrum just reaching the posterior coxa. Height of the head greater than its breadth seen in profile. Eyes large, breadth of head between the eyes smaller than in other species of *Megacœlum* which the writer has been able to examine, smaller in female than in male. Sulcation of vertex present but rather obscure, but more marked in the male. Eyes extend well beyond the anterior margin of the pronotum. First antennal joint moderately thickened, only just shorter than the length of the pronotum, very slightly thicker than the second joint which is not thickened apically, and in the male thicker than in the female, rather thicker than in other species of *Megacœlum ;* third joint $\frac{2}{3}$ length of second joint, which is 3 times length of the first ; third and fourth joints together equal in length to second joint. Pronotum moderately convex and sloping anteriorly, obscurely transversely rugose, basal angles rounded, lateral margins straight, breadth nearly twice the length, anterior collar small, calli prominent. Scutellum flat, triangular, rather small, rugose. Hemelytra just reach apex of abdomen. Posterior femora slightly more than half the length of

the insect. Posterior leg longer than insect (9 mm. : 7 mm.). All femora with two apical setæ. Tibiæ spinulose; first two tarsal joints together less than last joint.

Antenna ochraceous, mottled fuscous, fourth joint almost entirely dark fuscous. Head rugulose before the eyes. Eyes and head dark fuscous. Hemelytra dark fuscous with ochraceous central transverse fascia on the corium, membrane fuscous. Anterior and intermediate legs testaceous, femora and in some cases the tibia of the posterior leg fuscous and dark fuscous. Coxa testaceous in the posterior and intermediate pair. All three pairs of legs have femora mottled fuscous. Finely pilose. In some individuals the cuneus is distinctly red brown. Pleuræ and pronotum may be sanguineous. The nearest species of *Megacœlum*, so far as structure is concerned, is *M. biseratense :*

Habitat : Coimbatore; bred from *Nîm* trees (*Azadirachta indica*) (*Y. Ramachandra Rao*).

Type in British Museum.

Megacœlum horni, Poppius.

Fourth joint of the antenna brown, except at the base where it is yellow. In the original description of this species it is stated that the fourth joint was missing in the Type.

Hyalopeplus krishna, n. sp. (Pl. XVII, fig. 7).

Similar in general appearance to *Hyalopeplus* (*Callicratides*) *rama*, Dist. It differs chiefly in that the posterior half of the pronotum is irregularly punctured (not transversely rugulose as in *H. rama*) and the central red stripe is absent. The reddish colouration of the cuneus is fainter than in *H. rama*. The pronotum is less constricted and is more convex. The apices of the posterior femora are faintly infuscated. Legs ochraceous. Apex of second antennal joint and the third and fourth joints piceous. First antennal joint shorter in proportion than first joint in *H. rama*.

Habitat : Chapra. (N. Bihar).

Type in British Museum.

Pœciloscytus rugulus, n. sp.

Brick red. Head, pronotum, scutellum and hemelytra flavescently pilose. Eyes black. Base and extreme apex of first antennal joint, apical two-thirds of second joint and third joint, and whole of fourth joint black, base of third joint pale ochraceous, base of second joint and all first joint except base and apex brick red. Membrane fuliginous. A triangular black marking at the inner basal area of the corium below clavus and inner basal angle of cuneus. Veins of membrane all pinkish. Cuneus and part of anterior margin of corium sanguineous. Body beneath brick

red, flavescently pilose, with sternites and coxæ suffused fuscous. Anterior legs red with tarsi pale ochraceous. Basal half of posterior femora very pale orange. Apical two-thirds of tibia pinkish. Apices of tarsi black. Intermediate legs have similar colouring but tarsi more uniformly red.

Length : 7 mm.

Habitat : Kollur Ghat, 3,000 feet, South India : Nagodi, 2,500 feet, South Kanara (*T. V. Ramakrishna Ayyar*).

Type in British Museum (Natural History).

Pœciloscytus aureus, n. sp

Black, flavescently pilose. Head, posterior margin of pronotum, apex of scutellum, a spot on the costa near the apex of corium and a broad fascia on the cuneus ochraceous. Membrane hyaline with vein of cell fuscous. Proximal area of posterior femora and annulation of the tibia ochraceous, remainder of leg fuscous and flavescently pilose ; anterior femora fuscous ; tarsi on anterior and posterior legs pale ochraceous ; intermediate pair of legs and antennæ missing in specimens examined. An interrupted thin black line runs along lateral margin of abdomen. Pleura of thorax black and thickly flavescently pilose.

$2\frac{1}{2}$—3 mm.

Habitat : Coimbatore, South India (*T. Bainbrigge Fletcher* and *T. V. Ramakrishna Ayyar*).

Type in British Museum.

Sub-Family MACROLOPHINÆ.

Division CREMNOCEPHALARIA.

Nicostratus monomoriiformis, n. sp. (Pl. XIX, fig. 8).

Head and pronotum brownish ochraceous. Antenna : basal joint ochraceous : second joint inclined to fuscous, apex black ; third joint, apex black, basal area brownish ochraceous ; fourth joint black, apical area very pale stramineous. Scutellum dark fuscous. Margins of the strongly developed scutellar spine stramineous. Corium and clavus very dark brown except at the base. A white transverse fascia crosses both corium and cuneus at the apex of the scutellum.

Legs : proximal end of femora of intermediate and posterior legs pale stramineous, distally fuscous ; proximal end of tibiæ fuscous, distally ochraceous, as are the tarsi except for the last joint ; first pair of legs fuscous except for the tarsi which are pale ochraceous. Pronotum constricted anteriorly and armed with two strong diverging spines. The first antennal joint is shorter than in *N. princeps*, Dist., the head is longer and the eyes are reniform. The general colour-

tion, though similar, is darker and more nearly resembles *N. diversus*, Dist. This species bears a striking resemblance to *Monomorium indicum* Forel.

Length : 4 mm.

Habitat : Chikballapur, Mysore (*T. V. Campbell*).

Type in British Museum (Natural History).

Sohenus uvarovi, n. sp. (Pl. XX, fig. 9).

Dull, light fuscous to fuscous black. A triangular clear fascia running from the middle of the costa and incompletely bisecting the corium. Infuscation of the hemelytra much deeper around the apex of this triangle ; apical part of corium and cuneus deep fuscous. The membrane sooty with a distinct ocellate marking near the apex of the membrane cell. Antenna : first joint pale ochraceous having on the under side two deep reddish-brown longitudinal stripes ; second joint deep chestnut ; third joint ochraceous ; fourth joint fuscous ; the third joint may be infuscated basally and apically. Coxæ and under side of thorax deep reddish brown, almost lake in some cases. Femora reddish ochraceous, more red colouring at the base of the femora. Tibiæ ochraceous on the anterior legs, reddish in the middle and deep reddish brown on the last pair. Tarsi black.

Anterior part of the pronotum, which forms a wide " collar," is rugose. Some variation is shown by the pronotum. Anteriorly of the median constriction it is finely punctate and the basal half of the pronotum is more or less strongly transversely rugose ; in other specimens this is not so marked and the pronotum has more the appearance of being finely punctate, the specimens being in other respects identical ; there is no doubt about all being one species.

Measurements : Antenna ; first joint $\frac{1}{4}$th the length of second, second $\frac{1}{4}$ as long again as third, third half as long again as the fourth.

Head in length equal to that of pronotum without the " collar." Pronotum, anterior margin about $\frac{1}{2}$ the posterior margin. Hemelytra only just reach beyond the apex of the abdomen. Rostrum does not quite reach the middle coxa. Head seen from in front distinctly higher than broad. Insertion of the antenna at about the lower third of the anterior margin of the eye. Eye not raised above the vertex, small, the vertical diameter being about equal to the gena. Length of the body just equal to that of the antenna (5 mm.) rather larger in fresh specimens.

This species in life bears a striking resemblance to *Camponotus compressus*, an ant very commonly found tending Mealy-bugs and Aphids. It was among these ants that it was first found, *S. uvarovi* apparently feeding on a Mealy-bug. *S. uvarovi* differs from *S. proditus* in the presence of the ocellate spot on the membrane, in its colouring and in its size.

Habitat : Coimbatore, South India.

Type in the British Museum.

4 ♂♂, 5 ♀♀ (*Y. Ramachandra Rao* and *T. V. Ramakrishna Ayyar*).

Sub-Family MACROLOPHINÆ.

Division Macrolopharia.

Cyrtopeltis (*Gallobelicus*, Dist.) *cruentatus*, n. sp. (Pl. XX, fig. 10).

Size as in *C.* (*Gallobelicus*) *crassicornis*. Ochraceous, possibly more virescent in life. Rather sparsely long-pilose. First antennal joint, except apex and base, red brown ; base and a sub-apical broad annulation of second antennal joint red brown ; third joint similarly marked but of a deeper red brown ; Fourth joint dark brown ; antenna finely flavescently pilose. Markings of thoracic pleuræ and base of rostrum blood red. Anterior portion of pronotum along the sulcation and transversely at the constriction sanguineous. There may be two fuscous spots just posterior to the constriction. Scutellum with two fine curved median longitudinal fasciæ deep red, the concavity being outwards. The exposed mesonotum has two deep red markings and a central ochraceous stripe. Apex of corium and apex of cuneus and vein of membranal cell sanguineous. Membrane hyaline. Intermediate femora with sub-apical blood-red annulation, which is about three times as broad on the posterior femora : the basal half of these latter, excluding the extreme base, brownish red. (This last marking may be absent). Apices of tarsi red-brown.

Length : 3 mm.

Habitat : Coimbatore and Kistna Districts, South India ; on grass (*Y. Ramachandra Rao*), on *Boerhavia repens* (*T. Bainbrigge Fletcher*).

Type in British Museum (Natural History).

Cyrtopeltis (*Gallobelicus*, Dist.) *cæsar*, n. sp.

Colouration as in *G. crassicornis*, Dist., but, as far as the antennæ are concerned, paler ; a variation is that in one specimen the first antennal joint is not black and the basal and apical portions of the second joint are much paler than in *crassicornis*. The antenna is longer in proportion in this species than in *crassicornis*. Total length of insect is 4 mm. whilst *crassicornis* measures 3 mm. The eyes are larger and the space between them smaller. The pronotum is more broadly sulcate anteriorly. The membranal cell is somewhat apically constricted.

Habitat : Godavari District, South India ; on tobacco (*T. V. Ramakrishna Ayyar*).

Type in British Museum.

Armachanus pusæ, n. sp. (Pl. XXI, fig. 11).

Mottled brown, the mottling of head and pronotum and first antennal segment more reddish brown than on the hemelytra. Eyes black. Broad dark brown subapical annulation on first antennal segment of which the base is dark brown. Legs mottled with reddish brown. Posterior and intermediate coxæ luteous. Anterior

coxæ dark brown. Rostrum reddish brown. Abdomen fuliginous. On the head, between the eyes, three ocelli-like tubercles, another large pale tubercle at the centre of the posterior margin of the pronotum, a short carina running from this to the pronotal constriction. The hemelytra bear a dark brown semicircular marking on the corium the anterior horn of which is confluent with a marginal brown marking on the clavus. Membrane fuliginous with the veins white. The cuneus is dark brown with lighter spots, the outer basal angle and the apex dark brown. All but basal segments of the antennæ missing.

A single female specimen from Pusa, Bihar, North India, (*T. Bainbrigge Fletcher*) on the trunk of *Cassia fistula*, attended by *Camponotus*). Type in collection at Pusa. [Since sent to British Museum. *T. B. F.*]

FIG. 1. *Deraeocoris mac latus*, Ballard. (×10.)

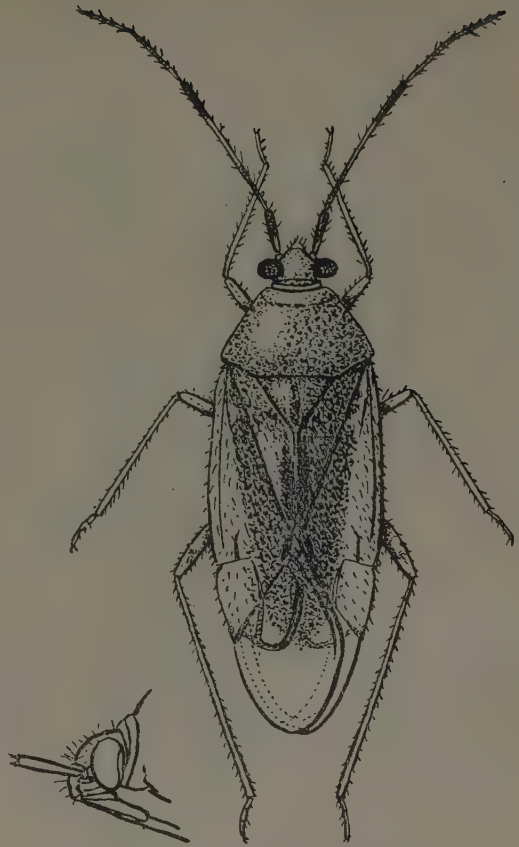

FIG. 2. *Deraeocoris indicus*, Ballard. (×16.)

PLATE XV.

PLATE XVI.

FIG. 3. *Deraeocoris aphidicidus*, Ballard. (×16.)

FIG. 4. *Deraeocoris dissimilis*, Ballard. (×16.)

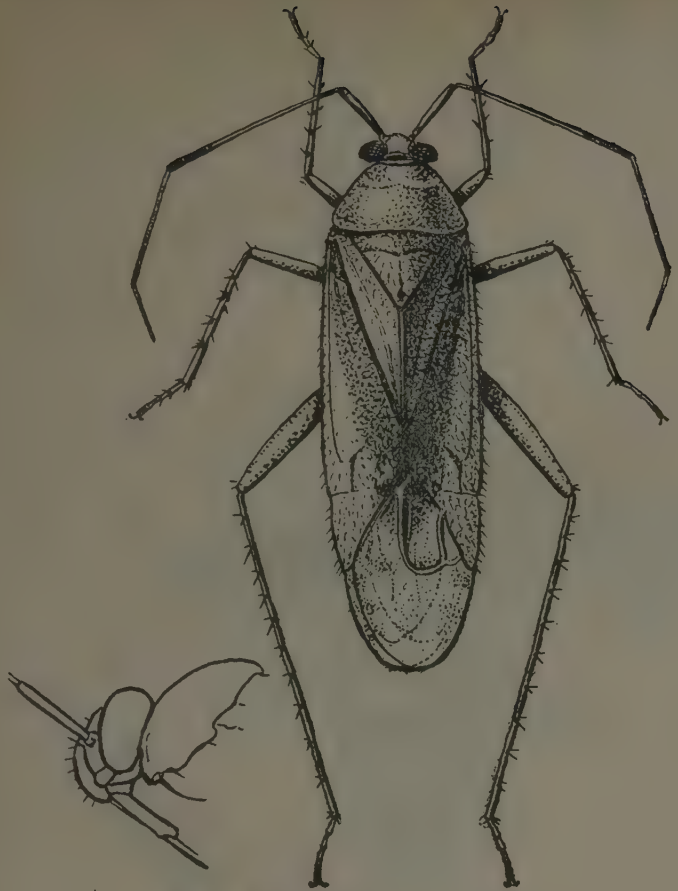

FIG. 5. *Stechus fletcheri*, Ballard. (×16.)

FIG. 7. *Hyalopeplus krishna*, Ballard. (×12)

PLATE XVII.

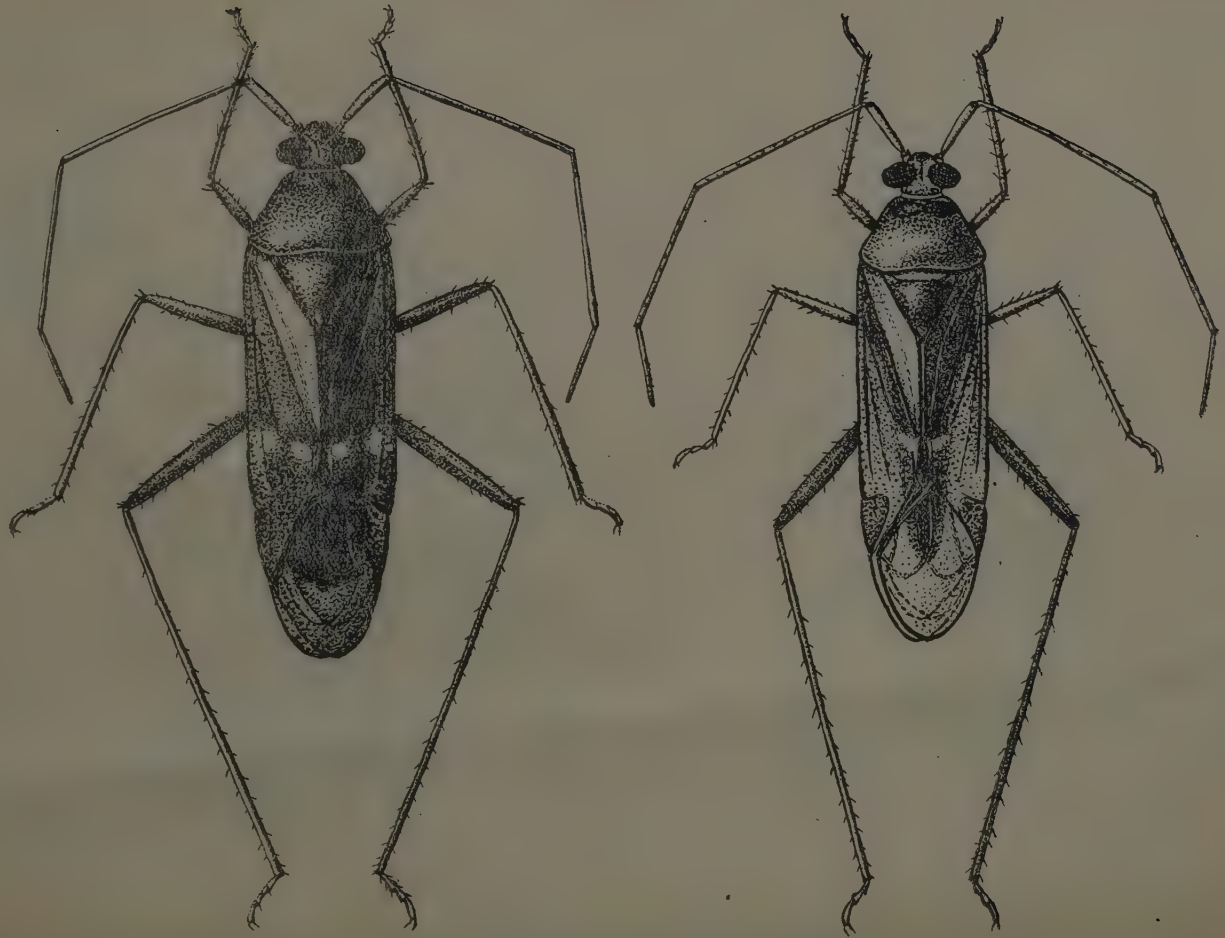

FIG. 6. *Megaccelum esmeduae*, Ballard. ♀ and ♂ (×12.)

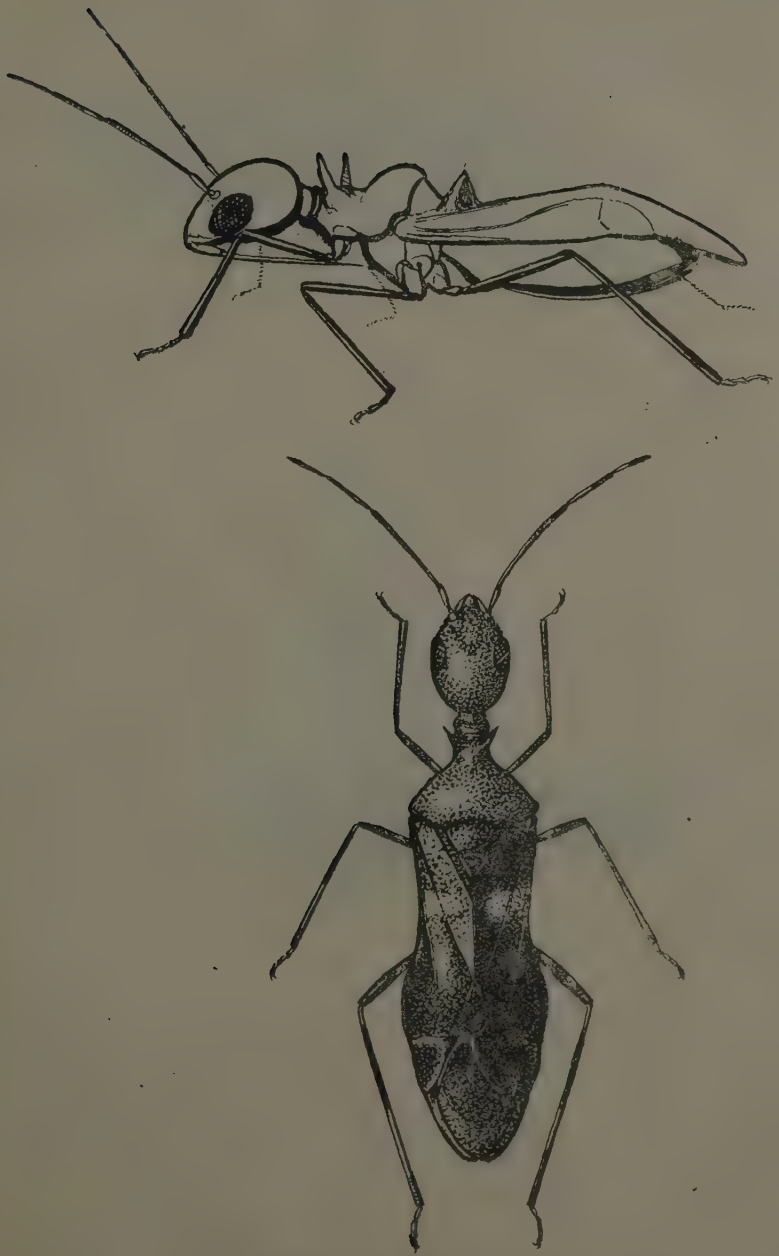

Fig. 8 *Nicostratus monomoriiformis*, Ballard (×24.)

Fig. 9. *Sohenus uvarovi*, Ballard. (×12.)

Fig. 10 *Cyrtopeltis crucentatus*, Ballard. (×36.)

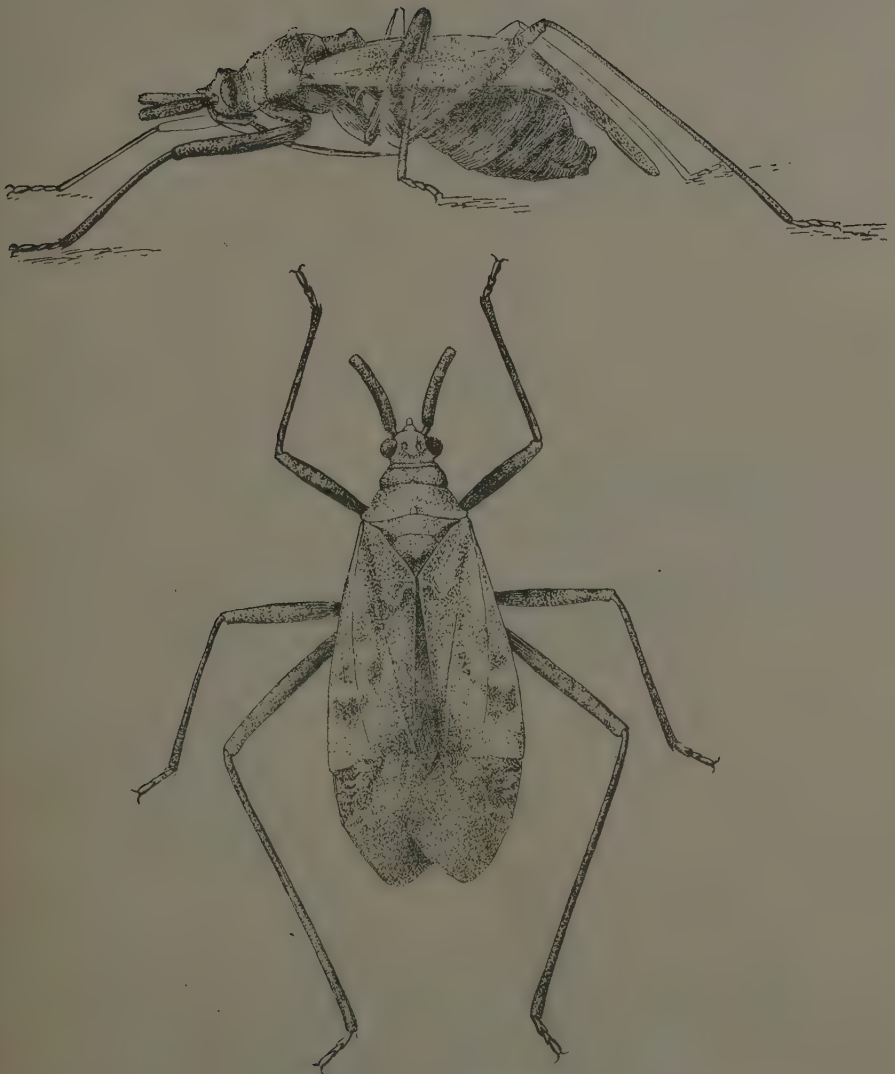

FIG. 11. *Armachanus pusae*, Ballard.
(Drawn from type ; × 12.)

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